

1

ABSTRACT

2 An optical lithography system comprises a light source, a spatial light
3 modulator, imaging optics and means for continuously moving a photosensitive
4 substrate relative to the spatial light modulator. The spatial light modulator
5 comprises at least one array of individually switchable elements. The spatial light
6 modulator is continuously illuminated and an image of the spatial light modulator
7 is continuously projected on the substrate; consequently, the image is constantly
8 moving across the surface of the substrate. While the image is moving across the
9 surface, elements of the spatial light modulator are switched such that a pixel on
10 the surface of the substrate receives, in serial, doses of energy from multiple
11 elements of the spatial light modulator, thus forming a latent image on the
12 substrate surface. The imaging optics is configured to project a blurred image of
13 the spatial light modulator on the substrate, enabling sub-pixel resolution feature
14 edge placement.

15